SPECIFICATION

TITLE OF INVENTION

Barney Auman

United States of America

20 Canyon Cove, Logan, Utah

Split Column Reassembly System

CROSS-REFERENCE TO RELATED APPLICATIONS

Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not Applicable

REFERENCE TO SEQUENCE LISTING, A TABLE, OR A COMPUTER PROGRAM LISTING COMPACT DISK APPENDIX

Not Applicable

BACKGROUND OF INVENTION

Often when a column shaft, capital and base are installed, they must surround an already existing load-bearing post or beam. To accomplish this the column shaft, capital and base are cut laterally so that they can be installed around said post, beam or column on the site where the column shaft, capital and base are installed. The end result is that the column shaft, capitol and base have seams that do not align well, are uneven and/or leave gaps. These seams have to be repaired, which is time consuming and expensive to do. Theses seams often crack over time.

BRIEF SUMMARY OF INVENTION

The split column reassembly system invention creates a seam that is neat and even upon reinstallation. The column shaft, capital and base no longer have to be cut on the site along their

entire length, but only a few select locations, if at all. It also aides the column shaft, capital and base pieces in returning to their intended positions. The result is that the seams have little or no gap and they remain more even. The result of the aided repositioning is that little time is needed in making the column shaft, capitol and base line up and the installation time is therefore reduced. The invention also produces a flange area where the two halves will have a larger area to be joined together. The effect will be a stronger seam that is less likely to develop cracks. The labor time for the repairing of the seams is reduced and so are the materials.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

Figure 1a is a very basic drawing of the invention, in this drawing a column shaft is used to depict the basic idea behind the invention. The flange support is described in more detail in the "detailed description of the invention" section. The flange support's form here is for example only.

Figure 1b is a more detailed drawing of the invention with the some of the general parts or pieces needed for the invention. The parts here are only representative of the invention and are depicted here for communication of the idea of the invention. The components in this figure are described in more detail in the "detailed description of the invention" section. The components here portray the more essential components of the invention, their forms here are examples. The filler is not needed, but is beneficial.

Figure 2a is an example of the invention showing the possible parts, locations and forms of the invention. This drawing is to aide in the communication of the use of the optional parts of the invention. It is demonstrating only the idea of the invention, because it doesn't depict all forms or possible combinations of the invention. It is a top view. Each component is described in more detail in the "detailed description of the invention" section. The fastener and seam support are optional. The invention also has many other possible applications, the column shaft is for an example of an application.

Figure 2b is a drawing of the interior side view of figure 2a. This drawing also is merely an aide in communicating the relations of the components in the prior drawing from the interior. This is to communicate the idea and purpose of the invention. The components represent the same

components in figure 2a. The seam is marked as a hidden line because it is covered by the flange support.

Figure 2c is a drawing similar to 2b, but is exterior of the seam in figure 2b. This is to communicate the idea and purpose of the invention. The components are the same as those in figure 2a.

Figure 3a is a section drawing of a Tuscan Base. The cut for the section drawing is along the seam. The flange support is shown here in a varying form than figures 1a,1b,2a,2b and 2c. The flange support can have various forms and shapes. The components and the same as those mentioned in previous drawings.

Figure 3b is a drawing of the two pieces of the seam separated. The flange support is seen here attached to the "Adhered" side. The separator that goes between the adhesive and the flange support doesn't allow it to adhere on the "Separator" side. The adhesive is illustrated here in bold black lines and polygram, also indicated with arrows.

Figure 3c represents the separator side and the adhered side, the same pieces as in figure 3b, when connected.

DETAILED DESCRIPTION OF THE INVENTION

The invention are flanges or supports installed along the inside of the column behind the seam, attached to one of the two pieces that form the seam. This flange can be made of many different materials, as long as it can retain the principles needed in the explanation following in the proceeding paragraphs. There is also a thin separator between the seams and the flange and column that must also retain certain characteristics explained in the following paragraphs.

Before the column shaft, capital and/or base are cut, inner supports that connect the pieces that will result from the cut, must be put into place. These supports allow a space between the piece near the cut area and themselves. The column shaft, capital and/or base are cut so that they can circumscribe the load-bearing post, beam or column. The supports are left to retain the position and shape of the column shaft, capital and/or base along the seam. In some cases, where the pieces retain their form, it is not necessary to use supports. This is often the case with capitals and bases. If such is the case, these supports will not be required. It is also unnecessary to cut the

entire length of the piece. In many cases small sections of two to three inches may remain, acting in a similar way as the supports on the inside of the seam.

Once the column shaft, capital and/or base have been cut, another support or flange is installed along the seam. The flange can also be cast into the mold. This flange is attached to one of the sides of the two pieces of the seam. Along the other side the flange is made to form closely to the piece, but not to adhere. This forms a "key" for the two pieces of the seam.

In the gap, that results from the cut, a thin separator is placed and is trimmed flush with the piece. The seam is then repaired filling any gaps that remain. The pieces are made to look almost as though it were one.

Along the side of the seam that is not attached to the flange, fasteners of some type may be used to hold the pieces together for transit or storage, until the time of installation.

The process that has been implemented currently for column shafts is as follows.

The supports used in the column shafts which are placed behind the seam, prior to the cut, have been wood circles. These have been cut with an inside and outside diameter, forming a ring. These wood circles are nearly the size of the inside diameter of the column and are cut 7/16" thick from wood. If necessary, the circles are notched where they pass across the seam so that the flange support can be installed. These support rings are not always necessary.

The flange support is a strip of fiberglass 4 to 5" wide and about a 1/4" thick. The flange support could be made with the original column shaft in the mold, though the current process is that a separate piece is made. The length depends on the seam where it will be used. Covering one half, length-wise, of the four to five inch face of the flange, a strip of flexible, thin-mil plastic is attached. The plastic is glued to the fiberglass flange support at the center and runs the entire length of the flange support. It covers the entire one half, but is only glued at the center. The glued area is only about one inch wide, but runs the length of the flange support. The plastic is also generally 4 to 5" wide and therefore hangs off the edge of the face of the flange support. The other side of the same face of the flange support is uncovered.

During the next step a mixture of unsaturated polyester, milled fiberglass fillings and fumed silica is spread along the seam of the cut column shaft 1/2" to 3/4" inches thick and 4 to 5 inches wide. This mixture is catalyzed with organic peroxide. This is the process now in use,

though many different adhesives could be used. The flange support mentioned above also has the mixture spread along the area behind the thin plastic that covers the face of the flange support. While the mixture is soft and pliable the flange support is pressed along the seam of the column shaft where the catalyzed mixture has been spread. The edge of the glued plastic strip that runs along the centerline of the length of the flange support is aligned along the seam of the column shaft. The half of the flange support that is not covered with the plastic adheres together with the shaft. The plastic on the other half allows the mixtures on both sides of the plastic to form to one another without adhering. The mixtures do not form evenly, this forms the "key" mentioned previously. The mixture is allowed to dry. The separator could be a number of different things, including a chemical release or liquid. The thin plastic is what is in use currently.

Once hardened, a thin separator is placed in the gap resulting from the earlier cut of the seam. Currently a thin piece of posterboard is used to separate the two halves, though this could easily be done with various materials, including the use of the thin plastic mentioned in the previous paragraph. The posterboard is then trimmed flush with the piece. The seam is then repaired as needed, filling the gaps and spaces that remain, until the desired appearance is acquired.

Fasteners can then be used to attach the two halves together. Screws are now currently in use. The screws pass through both the column shaft and the flange on the side of the seam that is not attached. The screws hold these two pieces together until the column shaft is ready to be installed.

The process generally used for the capitols and bases varies slightly from the column shafts. The capitols and bases are cut, but the wood supports are not necessary. Instead, as with the column shafts, small areas of the seams are not cut. These small attachments retain the form of the pieces.

Along the back of the seam on the capitals and bases the same mixture as mentioned previously is currently in use. On one half of the seam, over the mixture, a piece of thin plastic is laid. While the mixture is still pliable, a layer of fiberglass saturated with catalyzed polyester resin is laid over both halves of the seam. The reason the fiberglass is laid inside the piece is because it forms to the shape of the capitol and base. In the same fashion, the fiberglass bonds to the

uncovered half and forms without adhering to the other half.

If necessary, fasteners of some kind can be installed to hold the two pieces together for shipping or storage.

The basic concept of the invention is such that the column shaft, capital or base can be joined for a much better seam and with little work needed on the site of installation to complete the installation. The materials can be many and varying, but the idea of the two halves having a form or key to return to their ideal positions after their installation around the support or beam, is the fundamental concept of this system.